

## Unit 5 Extra Practice Problems

Date\_\_\_\_\_ Period\_\_\_\_\_

**Use graphing to find the x-coordinate of the solution to each system.**

$$\begin{aligned} 1) \quad y &= -\frac{3}{2}x + 1 \\ y &= -\frac{1}{2}x - 1 \end{aligned}$$

$$\begin{aligned} 2) \quad y &= -3x + 4 \\ y &= \frac{1}{2}x - 3 \end{aligned}$$

$$\begin{aligned} 3) \quad y &= -x + 3 \\ y &= 2x - 3 \end{aligned}$$

$$\begin{aligned} 4) \quad y &= -\frac{5}{4}x - 2 \\ y &= -\frac{1}{4}x + 2 \end{aligned}$$

$$\begin{aligned} 5) \quad y &= \frac{1}{4}x - 1 \\ y &= -\frac{1}{2}x - 4 \end{aligned}$$

**Solve each system by elimination.**

$$\begin{aligned} 6) \quad 5x + 7y &= -29 \\ 7x - 7y &= -7 \end{aligned}$$

$$\begin{aligned} 7) \quad -2x - 8y &= 24 \\ 2x - 9y &= 27 \end{aligned}$$

$$\begin{aligned} 8) \quad -5x + 6y &= 26 \\ 10x - 6y &= -16 \end{aligned}$$

$$\begin{aligned} 9) \quad -2x - 4y &= 20 \\ -x - 4y &= 22 \end{aligned}$$

$$\begin{aligned} 10) \quad 7x + 3y &= -14 \\ -5x + 3y &= 10 \end{aligned}$$

$$\begin{aligned} 11) \quad 5x + y &= 19 \\ 5x + 2y &= 13 \end{aligned}$$

$$\begin{aligned} 12) \quad 7x - 8y &= 17 \\ 4x - 4y &= 8 \end{aligned}$$

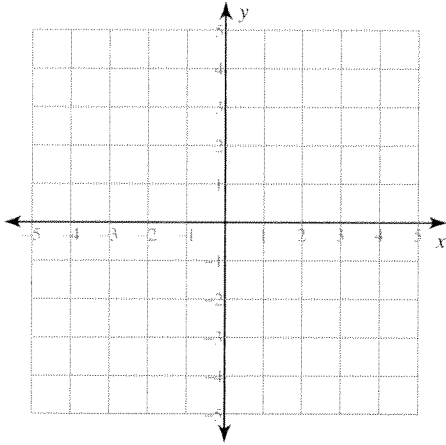
$$\begin{aligned} 13) \quad 5x - 8y &= 24 \\ -x + 16y &= 24 \end{aligned}$$

$$\begin{aligned} 14) \quad 7x + y &= 11 \\ -8x - 3y &= 6 \end{aligned}$$

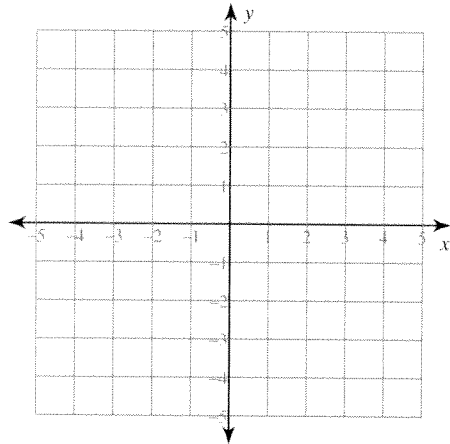
Sketch the solution to each system of inequalities.

15)  $y > \frac{2}{3}x - 1$

$y \leq -\frac{1}{3}x + 2$

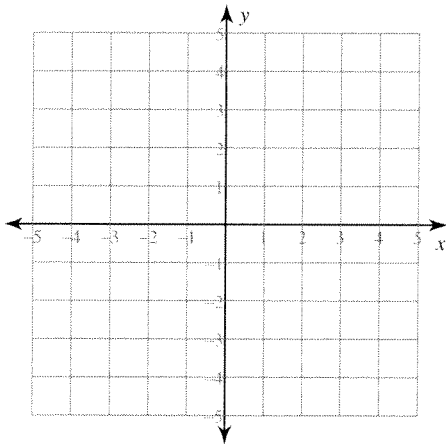


16)  $y \geq -x + 1$   
 $y \leq -2$

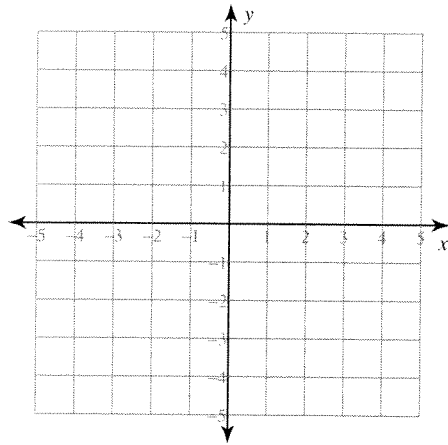


17)  $y \leq \frac{1}{3}x + 2$

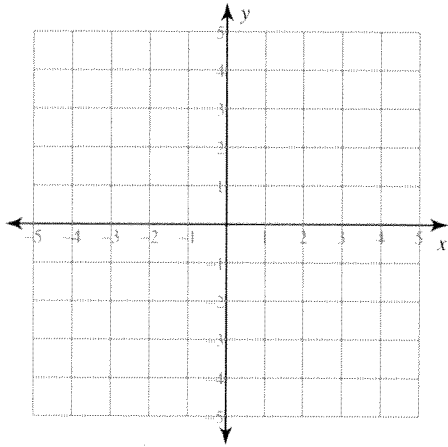
$y > \frac{4}{3}x - 1$



18)  $x + y > 1$   
 $4x + y > -2$



19)  $x + y \geq 2$   
 $3x - y \leq 2$



- 20) Molly and Huong are selling fruit for a school fundraiser. Customers can buy small boxes of grapefruit and large boxes of grapefruit. Molly sold 2 small boxes of grapefruit and 2 large boxes of grapefruit for a total of \$62. Huong sold 2 small boxes of grapefruit and 1 large box of grapefruit for a total of \$43. What is the cost each of one small box of grapefruit and one large box of grapefruit?
- 21) The school that Perry goes to is selling tickets to the annual talent show. On the first day of ticket sales the school sold 4 senior citizen tickets and 5 child tickets for a total of \$126. The school took in \$168 on the second day by selling 7 senior citizen tickets and 5 child tickets. Find the price of a senior citizen ticket and the price of a child ticket.
- 22) The difference of two numbers is 4. Their sum is 12. What are the numbers?
- 23) The sum of two numbers is 11. Their difference is 1. Find the numbers.
- 24) Jennifer and Perry are selling flower bulbs for a school fundraiser. Customers can buy bags of windflower bulbs and packages of crocus bulbs. Jennifer sold 5 bags of windflower bulbs and 4 packages of crocus bulbs for a total of \$76. Perry sold 5 bags of windflower bulbs and 2 packages of crocus bulbs for a total of \$48. What is the cost each of one bag of windflower bulbs and one package of crocus bulbs?

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Date \_\_\_\_\_ Period \_\_\_\_\_

**Use graphing to find the x-coordinate of the solution to each system.**

$$1) \quad y = -\frac{3}{2}x + 1$$

$$y = -\frac{1}{2}x - 1$$

2

$$2) \quad y = -3x + 4$$

$$y = \frac{1}{2}x - 3$$

2

$$3) \quad y = -x + 3$$

$$y = 2x - 3$$

2

$$4) \quad y = -\frac{5}{4}x - 2$$

$$y = -\frac{1}{4}x + 2$$

-4

$$5) \quad y = \frac{1}{4}x - 1$$

$$y = -\frac{1}{2}x - 4$$

-4

**Solve each system by elimination.**

$$6) \quad 5x + 7y = -29$$

$$7x - 7y = -7$$

$(-3, -2)$

$$7) \quad -2x - 8y = 24$$

$$2x - 9y = 27$$

$(0, -3)$

$$8) \quad -5x + 6y = 26$$

$$10x - 6y = -16$$

$(2, 6)$

$$9) \quad -2x - 4y = 20$$

$$-x - 4y = 22$$

$(2, -6)$

$$10) \quad 7x + 3y = -14$$

$$-5x + 3y = 10$$

$(-2, 0)$

$$11) \quad 5x + y = 19$$

$$5x + 2y = 13$$

$(5, -6)$

$$12) \quad 7x - 8y = 17$$

$$4x - 4y = 8$$

$(-1, -3)$

$$13) \quad 5x - 8y = 24$$

$$-x + 16y = 24$$

$(8, 2)$

$$14) \quad 7x + y = 11$$

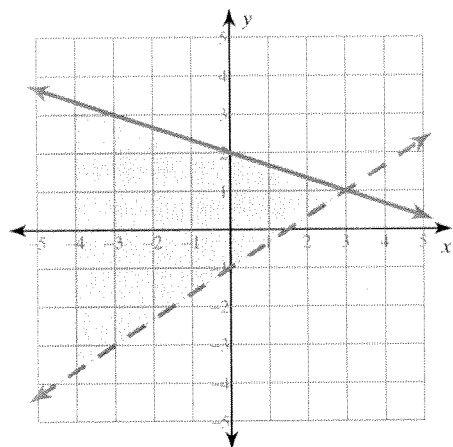
$$-8x - 3y = 6$$

$(3, -10)$

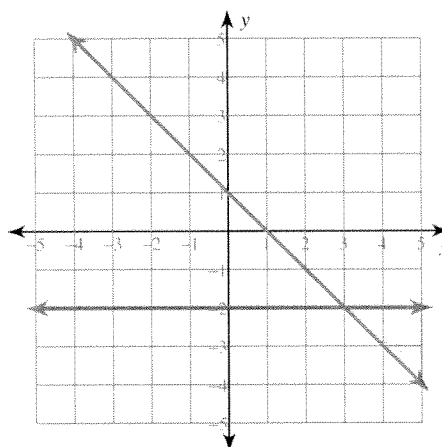
Sketch the solution to each system of inequalities.

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$y \leq -\frac{1}{3}x + 2$

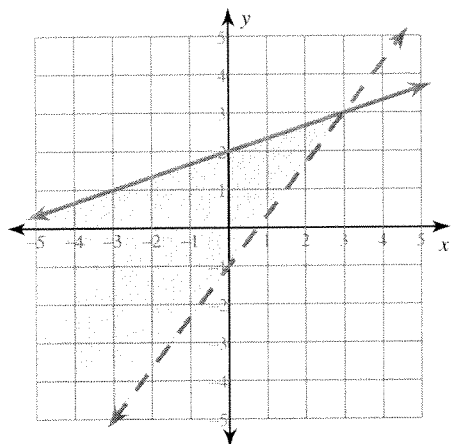


16)  $y \geq -x + 1$   
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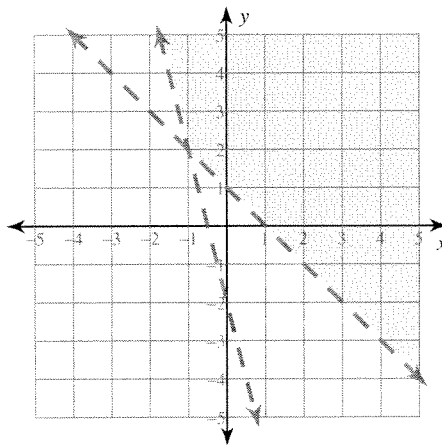


17)  $y \leq \frac{1}{3}x + 2$

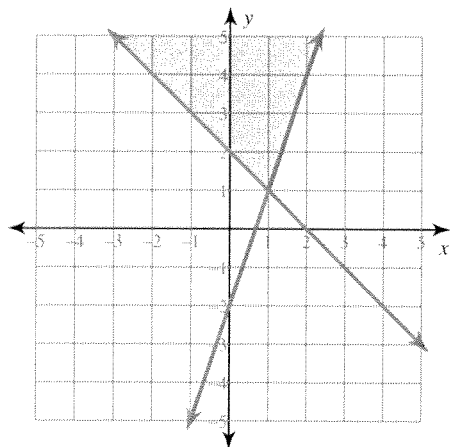
$y > \frac{4}{3}x - 1$



18)  $x + y > 1$   
 $4x + y > -2$



19)  $x + y \geq 2$   
 $3x - y \leq 2$



- 20) Molly and Huong are selling fruit for a school fundraiser. Customers can buy small boxes of grapefruit and large boxes of grapefruit. Molly sold 2 small boxes of grapefruit and 2 large boxes of grapefruit for a total of \$62. Huong sold 2 small boxes of grapefruit and 1 large box of grapefruit for a total of \$43. What is the cost each of one small box of grapefruit and one large box of grapefruit?

small box of grapefruit: \$12, large box of grapefruit: \$19

- 21) The school that Perry goes to is selling tickets to the annual talent show. On the first day of ticket sales the school sold 4 senior citizen tickets and 5 child tickets for a total of \$126. The school took in \$168 on the second day by selling 7 senior citizen tickets and 5 child tickets. Find the price of a senior citizen ticket and the price of a child ticket.

senior citizen ticket: \$14, child ticket: \$14

- 22) The difference of two numbers is 4. Their sum is 12. What are the numbers?

4 and 8

- 23) The sum of two numbers is 11. Their difference is 1. Find the numbers.

5 and 6

- 24) Jennifer and Perry are selling flower bulbs for a school fundraiser. Customers can buy bags of windflower bulbs and packages of crocus bulbs. Jennifer sold 5 bags of windflower bulbs and 4 packages of crocus bulbs for a total of \$76. Perry sold 5 bags of windflower bulbs and 2 packages of crocus bulbs for a total of \$48. What is the cost each of one bag of windflower bulbs and one package of crocus bulbs?

bag of windflower bulbs: \$4, package of crocus bulbs: \$14